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| 09/608,818      | 06/30/2000  | Jiann H. Chen        | 81326D-W            | 2410             |

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EXAMINER

TSOY, ELENA

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1762

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/608,818

Applicant(s)

CHEN ET AL.

Examiner

Elena Tsoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 6/13/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

***Request for Reconsideration***

Request for Reconsideration filed June 13, 2005 has been considered.

***Status of claims***

1. Claims 1-5, 7-20 are pending in the application.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 7-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartley et al (US 4,853,737) and incorporated by reference Lentz (US 4,257,699) in view of Schlueter, Jr. et al (US 5,995,796), Kirk-Othmer (Encyclopedia of Chemical Technology, 1994) and Lewis (Hawley's Chemical Dictionary, 1997) for the reasons of record as set forth in Paragraph No. 3 of the Office Action mailed on March 23, 2005.
4. Claims 1-5, 7-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartley et al (US 4,853,737) in view of Schlueter, Jr. et al (US 5,995,796), Blong et al (US 5,549,948), Kirk-Othmer (Encyclopedia of Chemical Technology, 1994) and Lewis (Hawley's Chemical Dictionary, 1997) for the reasons of record as set forth in Paragraph No. 4 of the Office Action mailed on March 23, 2005.

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5. Claims 1-5, 7-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartley et al (US 4,853,737) and incorporated by reference Lentz (US 4,257,699) in view of Schlueter, Jr. et al (US 5,995,796), further in view of Friedman et al (US 5,908,704) for the reasons of record as set forth in Paragraph No. 5 of the Office Action mailed on March 23, 2005.

6. Claims 1-5, 7-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartley et al (US 4,853,737) in view of Schlueter, Jr. et al (US 5,995,796) and Blong et al (US 5,549,948), further in view of Friedman et al (US 5,908,704) for the reasons of record as set forth in Paragraph No. 6 of the Office Action mailed on March 23, 2005.

7. Claims 1-5, 7-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartley et al (US 4,853,737) and incorporated by reference Lentz (US 4,257,699) in view of Schlueter, Jr. et al (US 5,995,796), further in view of Applicants' admitted state of art and Thullen et al (US 20030232207) for the reasons of record as set forth in Paragraph No. 7 of the Office Action mailed on March 23, 2005.

8. Claims 1-5, 7-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartley et al (US 4,853,737) in view of Schlueter, Jr. et al (US 5,995,796) and Blong et al (US 5,549,948), further in view of Applicants' admitted state of art and Thullen et al (US 20030232207) for the reasons of record as set forth in Paragraph No. 8 of the Office Action mailed on March 23, 2005.

#### ***Response to Arguments***

9. Applicants' arguments filed June 13, 2005 have been fully considered but they are not persuasive.

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Applicants argue that *cured* fluoroelastomers of Hartley such as Viton A and Viton B and fluorocarbon thermoplastic random copolymers are distinct classes of materials. Hartley does not expressly teach that the disclosed *cured* fluoroelastomers are thermoplastic because they are, in fact, not thermoplastic.

The Examiner respectfully disagrees with this argument. First of all, *cured* fluoroelastomers of Hartley are formed by covalently bonding polyorganosiloxane segments to the backbone of NON-cured fluoroelastomers (See column 2, lines 39-40) such as Viton A and Viton B. Secondly, the fact that Hartley does not expressly teach that the disclosed NON-*cured* fluoroelastomers are thermoplastic, means that *any* fluoroelastomer thermoplastic and non-thermoplastic are suitable for the use since Hartley does NOT limit cured fluoroelastomers to NON-thermoplastic fluoroelastomers.

Therefore, **it does not matter whether non-thermoplastic fluoroelastomers exist**, it is important that thermoplastic fluoroelastomers are known and conventionally used in the art. Since Hartley does NOT limit fluoroelastomers to NON-thermoplastic fluoroelastomers, thermoplastic fluoroelastomers known in the art can be used in Hartley.

For example:

(1) It is well known in the art that elastomers, including fluoroelastomers, include both thermosetting and thermoplastic polymers, as evidenced by Lewis and Kirk in entirety, especially page 25 of Kirk. Thus, it is reasonable to conclude that the elastomers including vinylidene fluoride-hexafluoropropylene-based fluoroelastomers of Hartley et al are embraced by the claimed fluorocarbon thermoplastic polymers because it is well known in the art that

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elastomers, including fluoroelastomers, include both thermosetting and thermoplastic polymers, as evidenced by Lewis and Kirk in entirety.

(2) Friedman et al teach that commercially available vinylidene fluoride-hexafluoropropylene-based fluoroelastomers also include **thermoplastic (fluoro)elastomer** terpolymer (random) THV containing 42-60 mole % (claimed z) of fluoroplastic hard segment of tetrafluoroethylene (ECTFE), 20-18 mole % (claimed y) of elastomeric soft segment of hexafluoropropylene (HFP), and 38-22 mole % (claimed x) of elastomeric soft segment of vinylidene fluoride (VDF) (See column 2, lines 52-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used commercially available thermoplastic elastomer THV of Friedman et al comprising 38-22 mole % of VDF subunits, 20-18 mole % of HFP subunits and 42-60 mole % of ECTFE subunits as backbone fluoroelastomers in Hartley et al/ in view of Schlueter, Jr. et al and Blong et al since Hartley teaches that (any) vinylidene fluoride-based fluoroelastomers which contain hexafluoropropylene as a comonomer are suitable as backbone fluoroelastomers.

(3) Applicants admitted that commercially available fluorocarbon thermoplastic random copolymers include vinylidene fluoride-hexafluoropropylene-based copolymers such as VF(75)-TFE(10)-HFP(25) marketed by Hoechst under the designation "THV Fluoroplastics" and VF(49)-TFE(41)-HFP(10) marketed by Minnesota Mining and Manufacturing (3M) under the designation "3M THV" (See specification, page 12, lines 23-31). Commercially available THV (3M/Hoechst), a PTFE-HFP-PVDF-Compound, admitted by Applicants to be claimed fluorocarbon thermoplastic random copolymers, are thermoplastic fluorinated elastomers, as evidenced by Thullen et al (See P80). In other words, THV (3M/Hoechst) admitted by

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Applicants as fluorocarbon thermoplastic random copolymers are also referred to in the art as thermoplastic fluorinated elastomers.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used commercially available fluorocarbon thermoplastic random copolymers (thermoplastic fluorinated elastomers) "THV Fluoroplastics" or "3M THV" as backbone fluoroelastomers in Hartley et al/Lentz and Schlueter, Jr. et al since Hartley teaches that (any) vinylidene fluoride-based fluoroelastomers which contain hexafluoropropylene as a comonomer are suitable as backbone fluoroelastomers.

### ***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (571) 272-1429. The examiner can normally be reached on Mo-Thur. 9:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-141523. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy  
Primary Examiner  
Art Unit 1762

ELENA TSOY  
PRIMARY EXAMINER  
*ETsoy*

July 14, 2005